

JA PGT/09

CRF Corrections Corrected by the STIC System Branch

Serial Number: 09/868,338

CRF Processing Date: 2/26/2002  
Edited by: A  
Verified by: (STIC staff)

ENTERED

- ☐ Changed a file from non-ASCII to ASCII
- ☐ Changed the margins in cases where the sequence text was "wrapped" down to the next line.
- ☐ Edited a format error in the Current Application Data section, specifically:  
\_\_\_\_\_
- ☐ Edited the Current Application Data section with the actual current number. The number inputted by the applicant was ☐ the prior application data; or ☐ other \_\_\_\_\_
- ☐ Added the mandatory heading and subheadings for "Current Application Data".
- ☐ Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer.
- ☐ Changed the spelling of a mandatory field (the headings or subheadings), specifically:  
\_\_\_\_\_
- ☐ Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were:  
\_\_\_\_\_
- ☐ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:  
\_\_\_\_\_
- ☐ Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place.
- ☐ Inserted colons after headings/subheadings. Headings edited included:  
\_\_\_\_\_
- ☐ Deleted extra, invalid, headings used by an applicant, specifically:  
\_\_\_\_\_
- ☐ Deleted: ☐ non-ASCII "garbage" at the beginning/end of files; ☐ secretary initials/filename at end of file;  
☐ page numbers throughout text; ☐ other invalid text, such as \_\_\_\_\_
- ☐ Inserted mandatory headings, specifically: \_\_\_\_\_
- ☐ Corrected an obvious error in the response, specifically:  
\_\_\_\_\_
- ☐ Edited identifiers where upper case is used but lower case is required, or vice versa.
- ☐ Corrected an error in the Number of Sequences field, specifically:  
\_\_\_\_\_
- ☐ A "Hard-Page-Break" code was inserted by the applicant. All occurrences had to be deleted.
- ☐ Deleted *ending* stop codon in amino acid sequences and adjusted the "(A)Length:" field accordingly (error due to a PatentIn bug). Sequences corrected: \_\_\_\_\_
- ☒ Other: *Seq 7 - inserted hard return*



PCT09

## RAW SEQUENCE LISTING

DATE: 02/26/2002

PATENT APPLICATION: US/09/868,338

TIME: 12:46:49

Input Set : N:\Crf3\02132002\I868338.raw

Output Set: N:\CRF3\02262002\I868338.raw

1 <110> APPLICANT: KANNO , SOHEI  
 2 MATSUI, KAZUHIKO  
 3 NAKAMATSU, TSUYOSHI  
 4 KIMURA, EIICHIRO  
 5 <120> TITLE OF INVENTION: ABC TRANSPORTER AND GENE CODING FOR THE SAME  
 6 <130> FILE REFERENCE: 209861US-8222-10-0-PCT  
 7 <140> CURRENT APPLICATION NUMBER: US/09/868,338  
 8 <141> CURRENT FILING DATE: 2001-06-18  
 9 <150> PRIOR APPLICATION NUMBER: JP 10/360621  
 10 <151> PRIOR FILING DATE: 1998-12-18  
 11 <150> PRIOR APPLICATION NUMBER: PCT/JP 99/07079  
 12 <151> PRIOR FILING DATE: 1998-12-18  
 13 <160> NUMBER OF SEQ ID NOS: 10  
 14 <170> SOFTWARE: PatentIn version 3.1  
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 17 <212> TYPE: DNA  
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 19 <220> FEATURE:  
 20 <223> OTHER INFORMATION: SYNTHETIC DNA  
 21 <221> NAME/KEY: misc\_feature  
 22 <222> LOCATION: (3)..(3)  
 23 <223> OTHER INFORMATION: n = c, g, a, or t  
 24 <221> NAME/KEY: misc\_feature  
 25 <222> LOCATION: (9)..(9)  
 26 <223> OTHER INFORMATION: n = c, g, a, or t  
 27 <221> NAME/KEY: misc\_feature  
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 29 <223> OTHER INFORMATION: n = c, g, a, or t  
 30 <400> SEQUENCE: 1  
 31  
 32 ggngarggng gngarga  
 33  
 34 <210> SEQ ID NO: 2  
 35 <211> LENGTH: 18  
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 37 <213> ORGANISM: ARTIFICIAL SEQUENCE  
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 39 <223> OTHER INFORMATION: SYNTHETIC DNA  
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 41 <222> LOCATION: (1)..(1)  
 42 <223> OTHER INFORMATION: n = c, g, a, or t  
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 44 <222> LOCATION: (4)..(4)  
 45 <223> OTHER INFORMATION: n = c, g, a, or t

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17

## RAW SEQUENCE LISTING

DATE: 02/26/2002

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TIME: 12:46:49

Input Set : N:\Crf3\02132002\I868338.raw

Output Set: N:\CRF3\02262002\I868338.raw

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 77 atcctcgaca aggatctgtc cg 22  
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 83 <220> FEATURE:  
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 86 ggtttgtcaa gtgtgccaag acagttgagc 30  
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 89 <211> LENGTH: 2370  
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 99 <221> NAME/KEY: CDS

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Output Set: N:\CRF3\02262002\I868338.raw

100 &lt;222&gt; LOCATION: (1759)..(2367)

101 &lt;223&gt; OTHER INFORMATION:

102 &lt;400&gt; SEQUENCE: 7

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| 103 | atg ctg gcg acc cga cta att acc ttg ttc ttt ttc cta gga atc att | 48  |
| 104 | Met Leu Ala Thr Arg Leu Ile Thr Leu Phe Phe Phe Leu Gly Ile Ile |     |
| 105 | 1 5 10 15   |     |
| 106 | gga tcg cta acc ggt aac ctc agt gaa cta cgt gca caa act act ttt | 96  |
| 107 | Gly Ser Leu Thr Gly Asn Leu Ser Glu Leu Arg Ala Gln Thr Thr Phe |     |
| 108 | 20 25 30  |     |
| 109 | agt aca tta tgg gat acc cat aaa gaa acc tat aga gtc tcc ata gct | 144 |
| 110 | Ser Thr Leu Trp Asp Thr His Lys Glu Thr Tyr Arg Val Ser Ile Ala |     |
| 111 | 35 40 45  |     |
| 112 | tcc gca gca gga caa gac ttc tac ggg ctt gct gag act cta cgc act | 192 |
| 113 | Ser Ala Ala Gly Gln Asp Phe Tyr Gly Leu Ala Glu Thr Leu Arg Thr |     |
| 114 | 50 55 60  |     |
| 115 | atg gat agg cat ggg gaa att att ttg gca gat cgt caa tgg tta aca | 240 |
| 116 | Met Asp Arg His Gly Glu Ile Ile Leu Ala Asp Arg Gln Trp Leu Thr |     |
| 117 | 65 70 75 80   |     |
| 118 | gct ccc ctt gat atc ggt gca cca gtc gta tta tca aac aca act ttt | 288 |
| 119 | Ala Pro Leu Asp Ile Gly Ala Pro Val Leu Ser Asn Thr Thr Phe     |     |
| 120 | 85 90 95  |     |
| 121 | gcc gtt gat gaa gga cta ctt gcg cca aaa gat cta ccg caa agt gac | 336 |
| 122 | Ala Val Asp Glu Gly Leu Leu Ala Pro Lys Asp Leu Pro Gln Ser Asp |     |
| 123 | 100 105 110   |     |
| 124 | gag atc aca ata ttg cat cct cag ttt ctg gat tcg gcc aaa gag cca | 384 |
| 125 | Glu Ile Thr Ile Leu His Pro Gln Phe Leu Asp Ser Ala Lys Glu Pro |     |
| 126 | 115 120 125   |     |
| 127 | gaa tta ctt ggt ttg ctg gag ttc gaa gca tcc aac tca caa gtg cca | 432 |
| 128 | Glu Leu Leu Gly Leu Leu Glu Phe Glu Ala Ser Asn Ser Gln Val Pro |     |
| 129 | 130 135 140   |     |
| 130 | atg cca aag atc caa agc att cca tat gat agc gaa gac tca acc aac | 480 |
| 131 | Met Pro Lys Ile Gln Ser Ile Pro Tyr Asp Ser Glu Asp Ser Thr Asn |     |
| 132 | 145 150 155 160   |     |
| 133 | ccc atg tct gaa gtt ttt acc tac aac att aac ctg gat agt gca gta | 528 |
| 134 | Pro Met Ser Glu Val Phe Thr Tyr Asn Ile Asn Leu Asp Ser Ala Val |     |
| 135 | 165 170 175   |     |
| 136 | aga aac cca atc gta gtt atc ctt ccc gca ggc tta gag ctt tta agt | 576 |
| 137 | Arg Asn Pro Ile Val Val Ile Leu Pro Ala Gly Leu Glu Leu Leu Ser |     |
| 138 | 180 185 190   |     |
| 139 | gat caa aat ttg tcg gct cga ctc aca cag aat agt ctg ctg ata aaa | 624 |
| 140 | Asp Gln Asn Leu Ser Ala Arg Leu Thr Gln Asn Ser Leu Ile Lys     |     |
| 141 | 195 200 205   |     |
| 142 | gac cag act ggt gtg aac gct ctt cta tcc tca gag gat tca cgc aat | 672 |
| 143 | Asp Gln Thr Gly Val Asn Ala Leu Leu Ser Ser Glu Asp Ser Arg Asn |     |
| 144 | 210 215 220   |     |
| 145 | tat gtg gga gct gca tcc ccg atg att gac acg tgg gaa gaa agc gtt | 720 |
| 146 | Tyr Val Gly Ala Ala Ser Pro Met Ile Asp Thr Trp Glu Glu Ser Val |     |
| 147 | 225 230 235 240   |     |
| 148 | gtt cgg ttg aag gaa gcg aac caa ata atc gcc ttc aac gct ttc att | 768 |

## RAW SEQUENCE LISTING

DATE: 02/26/2002

PATENT APPLICATION: US/09/868,338

TIME: 12:46:49

Input Set : N:\Crf3\02132002\I868338.raw

Output Set: N:\CRF3\02262002\I868338.raw

149 Val Arg Leu Lys Glu Ala Asn Gln Ile Ile Ala Phe Asn Ala Phe Ile  
 150 245 250 255  
 151 gca ttg ttc ctc acg acg act ctt gtt cta gca tac tgc act ggt att 816  
 152 Ala Leu Phe Leu Thr Thr Thr Leu Val Leu Ala Tyr Cys Thr Gly Ile  
 153 260 265 270  
 154 tca ttt aag aaa tca aag aag act atg ggt agc gca tct act agg aaa 864  
 155 Ser Phe Lys Lys Ser Lys Lys Thr Met Gly Ser Ala Ser Thr Arg Lys  
 156 275 280 285  
 157 tca tcc att aag agc tcg att aca gct gct aat tgt aga agt aat ttt 912  
 158 Ser Ser Ile Lys Ser Ser Ile Thr Ala Ala Asn Cys Arg Ser Asn Phe  
 159 290 295 300  
 160 cgc ttc aat tcc gtg cgt ctg gct cgc gaa ccg cta ttt cga gcg atc 960  
 161 Arg Phe Asn Ser Val Arg Leu Ala Arg Glu Pro Leu Phe Arg Ala Ile  
 162 305 310 315 320  
 163 tgc agc aat agc ttc aga tgc tcc ctc agc cag ata ctt aga aca tct 1008  
 164 Cys Ser Asn Ser Phe Arg Cys Ser Leu Ser Gln Ile Leu Arg Thr Ser  
 165 325 330 335  
 166 caa ttc tat acc tcc atc act gcc gtt ggt ttt agg aat ctt aat aat 1056  
 167 Gln Phe Tyr Thr Ser Ile Thr Ala Val Gly Phe Arg Asn Leu Asn Asn  
 168 340 345 350  
 169 cgg ttg gac ttc act ttc att ttt cag ttc gat gaa gct tcc ttt 1101  
 170 Arg Leu Asp Phe Thr Phe Ile Phe Gln Phe Asp Glu Ala Ser Phe  
 171 355 360 365  
 172 tgaaaagagc acaca atg ata gaa atc aat gac ctc aag aaa tct ttt ggc 1152  
 173 Met Ile Glu Ile Asn Asp Leu Lys Lys Ser Phe Gly  
 174 370 375  
 175 gtt cgg atc tta tgg caa ggt ctc agt cat aag ttt tta cca gga aca 1200  
 176 Val Arg Ile Leu Trp Gln Gly Leu Ser His Lys Phe Leu Pro Gly Thr  
 177 380 385 390 395  
 178 atg aca gca ctg act gga gcg tcc ggt tca gga aaa tcg act ttg ctc 1248  
 179 Met Thr Ala Leu Thr Gly Ala Ser Gly Ser Gly Lys Ser Thr Leu Leu  
 180 400 405 410  
 181 aac tgt ctt ggc aca ctt gac aaa cca agt tcc gga cag atc ctt gtc 1296  
 182 Asn Cys Leu Gly Thr Leu Asp Lys Pro Ser Ser Gly Gln Ile Leu Val  
 183 415 420 425  
 184 gag gat gta gac ctt ctg aaa ctc tct acg cgt aag caa cgg tta tac 1344  
 185 Glu Asp Val Asp Leu Leu Lys Leu Ser Thr Arg Lys Gln Arg Leu Tyr  
 186 430 435 440  
 187 agg aaa aat acg gtg ggc tat tta ttt caa gat tat gcc ttg att ccc 1392  
 188 Arg Lys Asn Thr Val Gly Tyr Leu Phe Gln Asp Tyr Ala Leu Ile Pro  
 189 445 450 455  
 190 gac agg aca gtt aaa ttc aac ctt cag ctt gcg gtg gaa aaa cac aaa 1440  
 191 Asp Arg Thr Val Lys Phe Asn Leu Gln Leu Ala Val Glu Lys His Lys  
 192 460 465 470 475  
 193 tgg cct gaa att cct caa gta ctt cat gct gtt ggt ctt gag tcg ttc 1488  
 194 Trp Pro Glu Ile Pro Gln Val Leu His Ala Val Gly Leu Glu Ser Phe  
 195 480 485 490  
 196 gag gaa aag cca gtt ttt gaa ctc tct ggt ggc gaa caa caa cga act 1536  
 197 Glu Glu Lys Pro Val Phe Glu Leu Ser Gly Gly Glu Gln Gln Arg Thr

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Input Set : N:\Crf3\02132002\I868338.raw

Output Set: N:\CRF3\02262002\I868338.raw

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| 198 |            | 495       |             | 500 |     | 505 |     |  |
| 199 | gcg        | ttg       | gcc         | cgg | gta | ctg | ctc | aaa aat ccc cga ata att ctg gct gat 1584 |
| 200 | Ala        | Leu       | Ala         | Arg | Val | Leu | Leu | Lys Asn Pro Arg Ile Ile Leu Ala Asp      |
| 201 |            | 510       |             | 515 |     | 520 |     |  |
| 202 | gaa        | cca       | acc         | gga | gct | cta | gat | tta aca aac agt gag cta gtc ata gaa 1632 |
| 203 | Glu        | Pro       | Thr         | Gly | Ala | Leu | Asp | Leu Thr Asn Ser Glu Leu Val Ile Glu      |
| 204 |            | 525       |             | 530 |     | 535 |     |  |
| 205 | gca        | ttg       | aga         | gca | ctc | gcc | gac | aaa ggc gcc acc gtt gtt gtt gct acg 1680 |
| 206 | Ala        | Leu       | Arg         | Ala | Leu | Ala | Asp | Lys Gly Ala Thr Val Val Val Ala Thr      |
| 207 |            | 540       |             | 545 |     | 550 |     | 555                                      |
| 208 | cac        | tcg       | ccc         | ctc | ttc | cga | gaa | tca gcg gat acc att atc aaa cta 1725     |
| 209 | His        | Ser       | Pro         | Leu | Phe | Arg | Glu | Ser Ala Asp Thr Ile Ile Lys Leu          |
| 210 |            |           | 560         |     |     | 565 |     | 570                                      |
| 211 | taggtgcccc | aacttttcg | gagatctcagt | gca | atg | atg | gaa | ttc tta aac act 1779                     |
| 212 |            |           |             |     | Met | Met | Glu | Phe Leu Asn Thr                          |
| 213 |            |           |             |     |     |     |     | 575                                      |
| 214 | cac        | cgt       | ttg         | att | gtt | ctc | ggg | agt ttg tct ttt cta ggg cta ggt ttc 1827 |
| 215 | His        | Arg       | Leu         | Ile | Val | Leu | Gly | Ser Leu Ser Phe Leu Gly Leu Gly Phe      |
| 216 |            | 580       |             | 585 |     | 590 |     |  |
| 217 | gcg        | gaa       | gtc         | ctg | ctg | cgt | ggc | cag tgg tca aca ccg cag ttt ttt gtt 1875 |
| 218 | Ala        | Glu       | Val         | Leu | Leu | Arg | Gly | Gln Trp Ser Thr Pro Gln Phe Phe Val      |
| 219 |            | 595       |             | 600 |     | 605 |     |  |
| 220 | ttc        | act       | ttc         | ttg | caa | act | ctg | ctt ctc gta ttg tgt ttt att cct aaa 1923 |
| 221 | Phe        | Thr       | Phe         | Leu | Gln | Thr | Leu | Leu Leu Val Leu Cys Phe Ile Pro Lys      |
| 222 |            | 610       |             | 615 |     | 620 |     | 625                                      |
| 223 | ctc        | tcg       | gtt         | cct | ttt | gtg | gtg | ctt cta agc att gcc caa ctc gcg ctt 1971 |
| 224 | Leu        | Ser       | Val         | Pro | Phe | Val | Val | Leu Leu Ser Ile Ala Gln Leu Ala Leu      |
| 225 |            |           | 630         |     |     | 635 |     | 640                                      |
| 226 | gca        | tac       | ctg         | tgt | att | cat | ggt | gaa cct caa agc acc agc cct ttc act 2019 |
| 227 | Ala        | Tyr       | Leu         | Cys | Ile | His | Gly | Glu Pro Gln Ser Thr Ser Pro Phe Thr      |
| 228 |            |           | 645         |     |     | 650 |     | 655                                      |
| 229 | tta        | att       | gtt         | gcc | caa | atg | gcg | ttt tcg gga ttg ctc atg ttc aga ggg 2067 |
| 230 | Leu        | Ile       | Val         | Ala | Gln | Met | Ala | Phe Ser Gly Leu Leu Met Phe Arg Gly      |
| 231 |            |           | 660         |     |     | 665 |     | 670                                      |
| 232 | caa        | cgg       | gtg         | ctc | gct | ttt | atc | tct gca ggt ggg ctc att tgg att ggg 2115 |
| 233 | Gln        | Arg       | Val         | Leu | Ala | Phe | Ile | Ser Ala Gly Gly Leu Ile Trp Ile Gly      |
| 234 |            | 675       |             | 680 |     | 685 |     |  |
| 235 | acc        | atc       | gat         | cca | aca | aac | ggt | gct tgg tct cct cat gtg atg tcc gcg 2163 |
| 236 | Thr        | Ile       | Asp         | Pro | Thr | Asn | Gly | Ala Trp Ser Pro His Val Met Ser Ala      |
| 237 |            | 690       |             | 695 |     | 700 |     | 705                                      |
| 238 | cta        | gca       | ctt         | gcc | gta | ttc | ttt | gcg ctg tcg atg gca ctt gga cag gtt 2211 |
| 239 | Leu        | Ala       | Leu         | Ala | Val | Phe | Phe | Ala Leu Ser Met Ala Leu Gly Gln Val      |
| 240 |            |           | 710         |     |     | 715 |     | 720                                      |
| 241 | ctt        | cga       | tca         | aaa | gtt | gaa | caa | aga gcc aac ctt gag gag cag gca aaa 2259 |
| 242 | Leu        | Arg       | Ser         | Lys | Val | Glu | Gln | Arg Ala Asn Leu Glu Glu Ala Lys          |
| 243 |            |           | 725         |     |     | 730 |     | 735                                      |
| 244 | att        | cag       | aca         | gaa | ctg | cgc | aga | aaa gaa cta agc act cca tct gca tcg 2307 |
| 245 | Ile        | Gln       | Thr         | Glu | Leu | Arg | Arg | Lys Glu Leu Ser Thr Pro Ser Ala Ser      |
| 246 |            |           | 740         |     |     | 745 |     | 750                                      |

## VERIFICATION SUMMARY

DATE: 02/26/2002

PATENT APPLICATION: US/09/868,338

TIME: 12:46:50

Input Set : N:\Crf3\02132002\I868338.raw

Output Set: N:\CRF3\02262002\I868338.raw

L:32 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1

L:50 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2

09868338.051801



PCT09

## RAW SEQUENCE LISTING

DATE: 02/13/2002

PATENT APPLICATION: US/09/868,338

TIME: 07:43:08

Input Set : A:\209861us.ST25.txt

Output Set: N:\CRF3\02132002\I868338.raw

Does Not Comply  
Corrected Diskette Needed

P2

2 <110> APPLICANT: KANNO , SOHEI  
 3 MATSUI, KAZUHIKO  
 4 NAKAMATSU, TSUYOSHI  
 5 KIMURA, EIICHIRO  
 7 <120> TITLE OF INVENTION: ABC TRANSPORTER AND GENE CODING FOR THE SAME  
 9 <130> FILE REFERENCE: 209861US-8222-10-0-PCT  
 C--> 11 <140> CURRENT APPLICATION NUMBER: US/09/868,338  
 13 <141> CURRENT FILING DATE: 2001-06-18  
 15 <150> PRIOR APPLICATION NUMBER: JP 10/360621  
 17 <151> PRIOR FILING DATE: 1998-12-18  
 19 <150> PRIOR APPLICATION NUMBER: PCT/JP 99/07079  
 21 <151> PRIOR FILING DATE: 1998-12-18  
 23 <160> NUMBER OF SEQ ID NOS: 10  
 25 <170> SOFTWARE: PatentIn version 3.1  
 27 <210> SEQ ID NO: 1  
 29 <211> LENGTH: 17  
 31 <212> TYPE: DNA  
 33 <213> ORGANISM: ARTIFICIAL SEQUENCE  
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 61 <223> OTHER INFORMATION: n = c, g, a, or t  
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 64 ggngarggng gngarga  
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 71 <212> TYPE: DNA  
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PATENT APPLICATION: US/09/868,338

TIME: 07:43:08

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Output Set: N:\CRF3\02132002\I868338.raw

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 97 <221> NAME/KEY: misc\_feature  
 99 <222> LOCATION: (7)..(7)  
 101 <223> OTHER INFORMATION: n = c, g, a, or t  
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 104 nccnccngtc attrtaytc 18  
 107 <210> SEQ ID NO: 3  
 109 <211> LENGTH: 32  
 111 <212> TYPE: DNA  
 113 <213> ORGANISM: ARTIFICIAL SEQUENCE  
 115 <220> FEATURE:  
 117 <223> OTHER INFORMATION: SYNTHETIC DNA  
 119 <400> SEQUENCE: 3  
 120 aatccacgtg aagctagtgg cagaacaagg cg 32  
 123 <210> SEQ ID NO: 4  
 125 <211> LENGTH: 30  
 127 <212> TYPE: DNA  
 129 <213> ORGANISM: ARTIFICIAL SEQUENCE  
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 135 <400> SEQUENCE: 4  
 136 acgaatgaac aattcaccac tggttgcgcc 30  
 139 <210> SEQ ID NO: 5  
 141 <211> LENGTH: 22  
 143 <212> TYPE: DNA  
 145 <213> ORGANISM: ARTIFICIAL SEQUENCE  
 147 <220> FEATURE:  
 149 <223> OTHER INFORMATION: SYNTHETIC DNA  
 151 <400> SEQUENCE: 5  
 152 atcctcgaca aggatctgtc cg 22  
 155 <210> SEQ ID NO: 6  
 157 <211> LENGTH: 30  
 159 <212> TYPE: DNA  
 161 <213> ORGANISM: ARTIFICIAL SEQUENCE  
 163 <220> FEATURE:  
 165 <223> OTHER INFORMATION: SYNTHETIC DNA  
 167 <400> SEQUENCE: 6  
 168 ggtttgtcaa gtgtgccaa acagttgagc 30  
 171 <210> SEQ ID NO: 7  
 173 <211> LENGTH: 2370  
 175 <212> TYPE: DNA  
 177 <213> ORGANISM: Brevibacterium lactofermentum  
 179 <220> FEATURE: *insert hard return*  
 W--> 181 <221> NAME/KEY: CDS<222> (1)..(1101)

## RAW SEQUENCE LISTING

DATE: 02/13/2002

PATENT APPLICATION: US/09/868,338

TIME: 07:43:08

Input Set : A:\209861us.ST25.txt

Output Set: N:\CRF3\02132002\I868338.raw

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183 <223> OTHER INFORMATION:
185 <220> FEATURE:
187 <221> NAME/KEY: CDS
189 <222> LOCATION: (1117)..(1725)
191 <223> OTHER INFORMATION:
193 <220> FEATURE:
195 <221> NAME/KEY: CDS
197 <222> LOCATION: (1759)..(2367)
199 <223> OTHER INFORMATION:
201 <400> SEQUENCE: 7
202 atg ctg gcg acc cga cta att acc ttg ttc ttt ttc cta gga atc att      48
203 Met Leu Ala Thr Arg Leu Ile Thr Leu Phe Phe Leu Gly Ile Ile
204 1      5      10      15
206 gga tcg cta acc ggt aac ctc agt gaa cta cgt gca caa act act ttt      96
207 Gly Ser Leu Thr Gly Asn Leu Ser Glu Leu Arg Ala Gln Thr Thr Phe
208      20      25      30
210 agt aca tta tgg gat acc cat aaa gaa acc tat aga gtc tcc ata gct      144
211 Ser Thr Leu Trp Asp Thr His Lys Glu Thr Tyr Arg Val Ser Ile Ala
212      35      40      45
214 tcc gca gca gga caa gac ttc tac ggg ctt gct gag act cta cgc act      192
215 Ser Ala Ala Gly Gln Asp Phe Tyr Gly Leu Ala Glu Thr Leu Arg Thr
216      50      55      60
218 atg gat agg cat ggg gaa att att ttg gca gat cgt caa tgg tta aca      240
219 Met Asp Arg His Gly Glu Ile Ile Leu Ala Asp Arg Gln Trp Leu Thr
220 65      70      75      80
222 gct ccc ctt gat atc ggt gca cca gtc gta tta tca aac aca act ttt      288
223 Ala Pro Leu Asp Ile Gly Ala Pro Val Val Leu Ser Asn Thr Thr Phe
224      85      90      95
226 gcc gtt gat gaa gga cta ctt gcg cca aaa gat cta ccg caa agt gac      336
227 Ala Val Asp Glu Gly Leu Leu Ala Pro Lys Asp Leu Pro Gln Ser Asp
228      100      105      110
230 gag atc aca ata ttg cat cct cag ttt ctg gat tcg gcc aaa gag cca      384
231 Glu Ile Thr Ile Leu His Pro Gln Phe Leu Asp Ser Ala Lys Glu Pro
232      115      120      125
234 gaa tta ctt ggt ttg ctg gag ttc gaa gca tcc aac tca caa gtg cca      432
235 Glu Leu Leu Gly Leu Leu Glu Phe Glu Ala Ser Asn Ser Gln Val Pro
236      130      135      140
238 atg cca aag atc caa agc att cca tat gat agc gaa gac tca acc aac      480
239 Met Pro Lys Ile Gln Ser Ile Pro Tyr Asp Ser Glu Asp Ser Thr Asn
240 145      150      155      160
242 ccc atg tct gaa gtt ttt acc tac aac att aac ctg gat agt gca gta      528
243 Pro Met Ser Glu Val Phe Thr Tyr Asn Ile Asn Leu Asp Ser Ala Val
244      165      170      175
246 aga aac cca atc gta gtt atc ctt ccc gca ggc tta gag ctt tta agt      576
247 Arg Asn Pro Ile Val Val Ile Leu Pro Ala Gly Leu Glu Leu Leu Ser
248      180      185      190
250 gat caa aat ttg tcg gct cga ctc aca cag aat agt ctg ctg ata aaa      624
251 Asp Gln Asn Leu Ser Ala Arg Leu Thr Gln Asn Ser Leu Leu Ile Lys
252      195      200      205

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254 gac cag act ggt gtg aac gct ctt cta tcc tca gag gat tca cgc aat 672  
 255 Asp Gln Thr Gly Val Asn Ala Leu Leu Ser Ser Glu Asp Ser Arg Asn  
 256 210 215 220  
 258 tat gtg gga gct gca tcc ccg atg att gac acg tgg gaa gaa agc gtt 720  
 259 Tyr Val Gly Ala Ala Ser Pro Met Ile Asp Thr Trp Glu Glu Ser Val  
 260 225 230 235 240  
 262 gtt cgg ttg aag gaa gcg aac caa ata atc gcc ttc aac gct ttc att 768  
 263 Val Arg Leu Lys Glu Ala Asn Gln Ile Ile Ala Phe Asn Ala Phe Ile  
 264 245 250 255  
 266 gca ttg ttc ctc acg acg act ctt gtt cta gca tac tgc act ggt att 816  
 267 Ala Leu Phe Leu Thr Thr Thr Leu Val Leu Ala Tyr Cys Thr Gly Ile  
 268 260 265 270  
 270 tca ttt aag aaa tca aag aag act atg ggt agc gca tct act agg aaa 864  
 271 Ser Phe Lys Lys Ser Lys Lys Thr Met Gly Ser Ala Ser Thr Arg Lys  
 272 275 280 285  
 274 tca tcc att aag agc tcg att aca gct gct aat tgt aga agt aat ttt 912  
 275 Ser Ser Ile Lys Ser Ser Ile Thr Ala Ala Asn Cys Arg Ser Asn Phe  
 276 290 295 300  
 278 cgc ttc aat tcc gtg cgt ctg gct cgc gaa ccg cta ttt cga gcg atc 960  
 279 Arg Phe Asn Ser Val Arg Leu Ala Arg Glu Pro Leu Phe Arg Ala Ile  
 280 305 310 315 320  
 282 tgc agc aat agc ttc aga tgc tcc ctc agc cag ata ctt aga aca tct 1008  
 283 Cys Ser Asn Ser Phe Arg Cys Ser Leu Ser Gln Ile Leu Arg Thr Ser  
 284 325 330 335  
 286 caa ttc tat acc tcc atc act gcc gtt ggt ttt agg aat ctt aat aat 1056  
 287 Gln Phe Tyr Thr Ser Ile Thr Ala Val Gly Phe Arg Asn Leu Asn Asn  
 288 340 345 350  
 290 cgg ttg gac ttc act ttc att ttt cag ttc gat gaa gct tcc ttt 1101  
 291 Arg Leu Asp Phe Thr Phe Ile Phe Gln Phe Asp Glu Ala Ser Phe  
 292 355 360 365  
 294 tgaaaagagc acaca atg ata gaa atc aat gac ctc aag aaa tct ttt ggc 1152  
 295 Met Ile Glu Ile Asn Asp Leu Lys Lys Ser Phe Gly  
 296 370 375  
 298 gtt cgg atc tta tgg caa ggt ctc agt cat aag ttt tta cca gga aca 1200  
 299 Val Arg Ile Leu Trp Gln Gly Leu Ser His Lys Phe Leu Pro Gly Thr  
 300 380 385 390 395  
 302 atg aca gca ctg act gga gcg tcc ggt tca gga aaa tcg act ttg ctc 1248  
 303 Met Thr Ala Leu Thr Gly Ala Ser Gly Ser Gly Lys Ser Thr Leu Leu  
 304 400 405 410  
 306 aac tgt ctt ggc aca ctt gac aaa cca agt tcc gga cag atc ctt gtc 1296  
 307 Asn Cys Leu Gly Thr Leu Asp Lys Pro Ser Ser Gly Gln Ile Leu Val  
 308 415 420 425  
 310 gag gat gta gac ctt ctg aaa ctc tct acg cgt aag caa cgg tta tac 1344  
 311 Glu Asp Val Asp Leu Leu Lys Leu Ser Thr Arg Lys Gln Arg Leu Tyr  
 312 430 435 440  
 314 agg aaa aat acg gtg ggc tat tta ttt caa gat tat gcc ttg att ccc 1392  
 315 Arg Lys Asn Thr Val Gly Tyr Leu Phe Gln Asp Tyr Ala Leu Ile Pro  
 316 445 450 455  
 318 gac agg aca gtt aaa ttc aac ctt cag ctt gcg gtg gaa aaa cac aaa 1440

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319 Asp Arg Thr Val Lys Phe Asn Leu Gln Leu Ala Val Glu Lys His Lys  
 320 460 465 470 475  
 322 tgg cct gaa att cct caa gta ctt cat gct gtt ggt ctt gag tcg ttc 1488  
 323 Trp Pro Glu Ile Pro Gln Val Leu His Ala Val Gly Leu Glu Ser Phe  
 324 480 485 490  
 326 gag gaa aag cca gtt ttt gaa ctc tct ggt ggc gaa caa caa cga act 1536  
 327 Glu Glu Lys Pro Val Phe Glu Leu Ser Gly Gly Glu Gln Gln Arg Thr  
 328 495 500 505  
 330 gcg ttg gcc cgg gta ctg ctc aaa aat ccc cga ata att ctg gct gat 1584  
 331 Ala Leu Ala Arg Val Leu Leu Lys Asn Pro Arg Ile Ile Leu Ala Asp  
 332 510 515 520  
 334 gaa cca acc gga gct cta gat tta aca aac agt gag cta gtc ata gaa 1632  
 335 Glu Pro Thr Gly Ala Leu Asp Leu Thr Asn Ser Glu Leu Val Ile Glu  
 336 525 530 535  
 338 gca ttg aga gca ctc gcc gac aaa ggc gcc acc gtt gtt gtt gct acg 1680  
 339 Ala Leu Arg Ala Leu Ala Asp Lys Gly Ala Thr Val Val Val Ala Thr  
 340 540 545 550 555  
 342 cac tcg ccc ctc ttc cga gaa tca gcg gat acc att atc aaa cta 1725  
 343 His Ser Pro Leu Phe Arg Glu Ser Ala Asp Thr Ile Ile Lys Leu  
 344 560 565 570  
 346 taggtgcccc aacttttcgg agatctcagt gca atg atg gaa ttc tta aac act 1779  
 347 Met Met Glu Phe Leu Asn Thr  
 348 575  
 350 cac cgt ttg att gtt ctc ggg agt ttg tct ttt cta ggg cta ggt ttc 1827  
 351 His Arg Leu Ile Val Leu Gly Ser Leu Ser Phe Leu Gly Leu Gly Phe  
 352 580 585 590  
 354 gcg gaa gtc ctg ctg cgt ggc cag tgg tca aca ccg cag ttt ttt gtt 1875  
 355 Ala Glu Val Leu Leu Arg Gly Gln Trp Ser Thr Pro Gln Phe Phe Val  
 356 595 600 605  
 358 ttc act ttc ttg caa act ctg ctt ctc gta ttg tgt ttt att cct aaa 1923  
 359 Phe Thr Phe Leu Gln Thr Leu Leu Leu Val Leu Cys Phe Ile Pro Lys  
 360 610 615 620 625  
 362 ctc tcg gtt cct ttt gtg gtg ctt cta agc att gcc caa ctc gcg ctt 1971  
 363 Leu Ser Val Pro Phe Val Val Leu Leu Ser Ile Ala Gln Leu Ala Leu  
 364 630 635 640  
 366 gca tac ctg tgt att cat ggt gaa cct caa agc acc agc cct ttc act 2019  
 367 Ala Tyr Leu Cys Ile His Gly Glu Pro Gln Ser Thr Ser Pro Phe Thr  
 368 645 650 655  
 370 tta att gtt gcc caa atg gcg ttt tcg gga ttg ctc atg ttc aga ggg 2067  
 371 Leu Ile Val Ala Gln Met Ala Phe Ser Gly Leu Leu Met Phe Arg Gly  
 372 660 665 670  
 374 caa cgg gtg ctc gct ttt atc tct gca ggt ggg ctc att tgg att ggg 2115  
 375 Gln Arg Val Leu Ala Phe Ile Ser Ala Gly Gly Leu Ile Trp Ile Gly  
 376 675 680 685  
 378 acc atc gat cca aca aac ggt gct tgg tct cct cat gtg atg tcc gcg 2163  
 379 Thr Ile Asp Pro Thr Asn Gly Ala Trp Ser Pro His Val Met Ser Ala  
 380 690 695 700 705  
 382 cta gca ctt gcc gta ttc ttt gcg ctg tcg atg gca ctt gga cag gtt 2211  
 383 Leu Ala Leu Ala Val Phe Phe Ala Leu Ser Met Ala Leu Gly Gln Val

VERIFICATION SUMMARY

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Input Set : A:\209861us.ST25.txt

Output Set: N:\CRF3\02132002\I868338.raw

L:11 M:270 C: Current Application Number differs, Replaced Current Application Number

L:64 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1

L:104 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2

L:181 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:7

209861us.ST25.txt